

SUPPLEMENTAL FIGURES

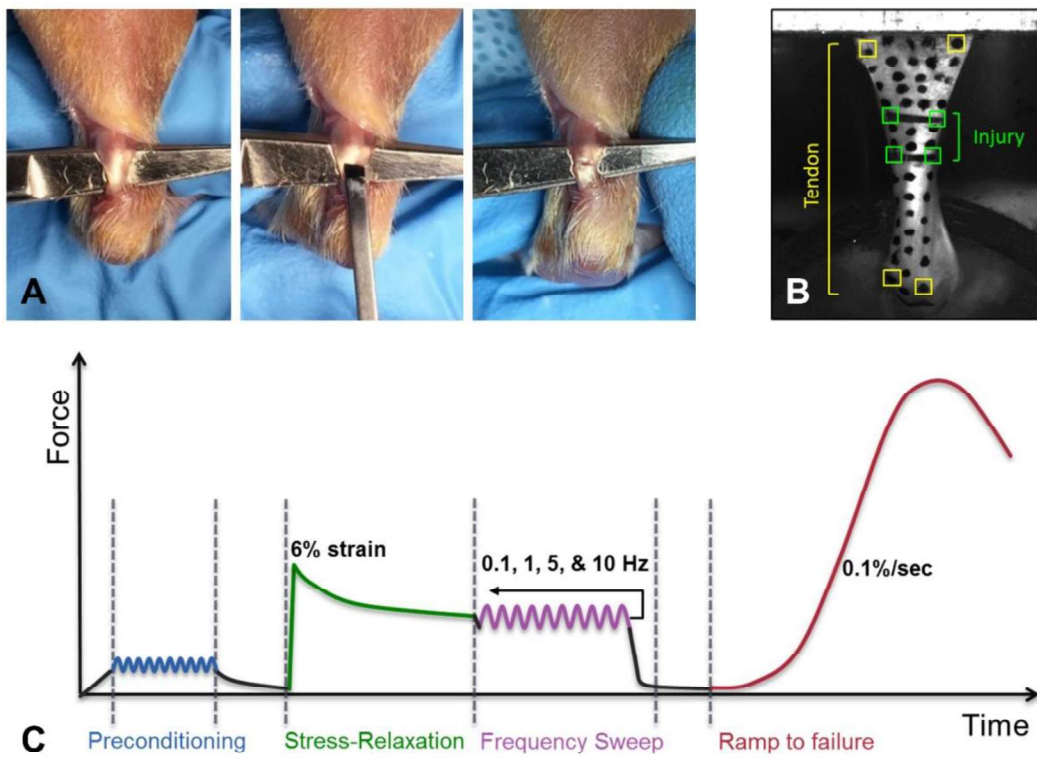


Figure S1: Representative images of (A) the surgical incisional injury of the Achilles tendon, (B) optical strain tracking of the full tendon and the injury region during the mechanical evaluation, and (C) a schematic of the mechanical testing loading protocol.

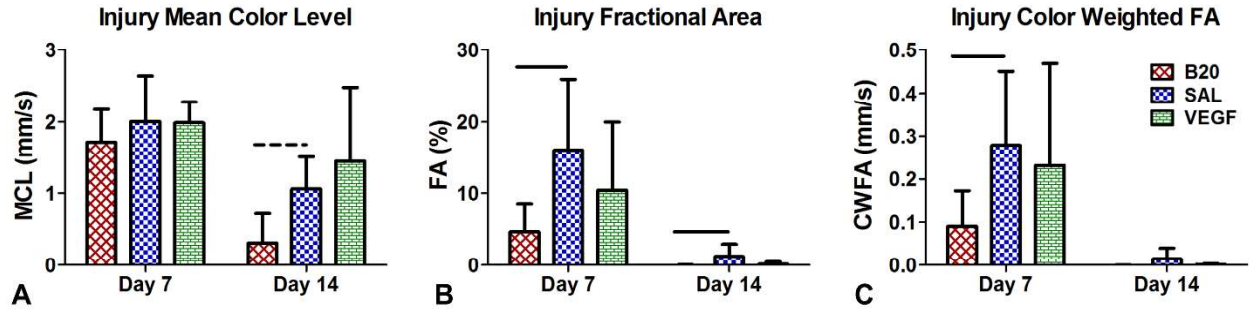


Figure S2: Color Doppler ultrasound analysis of the injury site ROI (A) mean color level (MCL), (B) fractional area (FA), and (C) color weighted fractional area (CWFA).

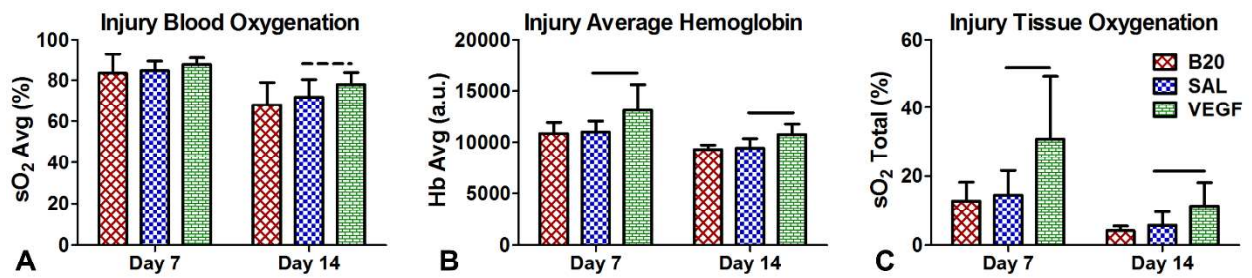


Figure S3: Photoacoustic ultrasound analysis of the injury site ROI (A) blood oxygenation (sO₂ Avg), (B) average hemoglobin (Hb Avg), and (C) tissue oxygenation (sO₂ Total) for the full tendon ROI.

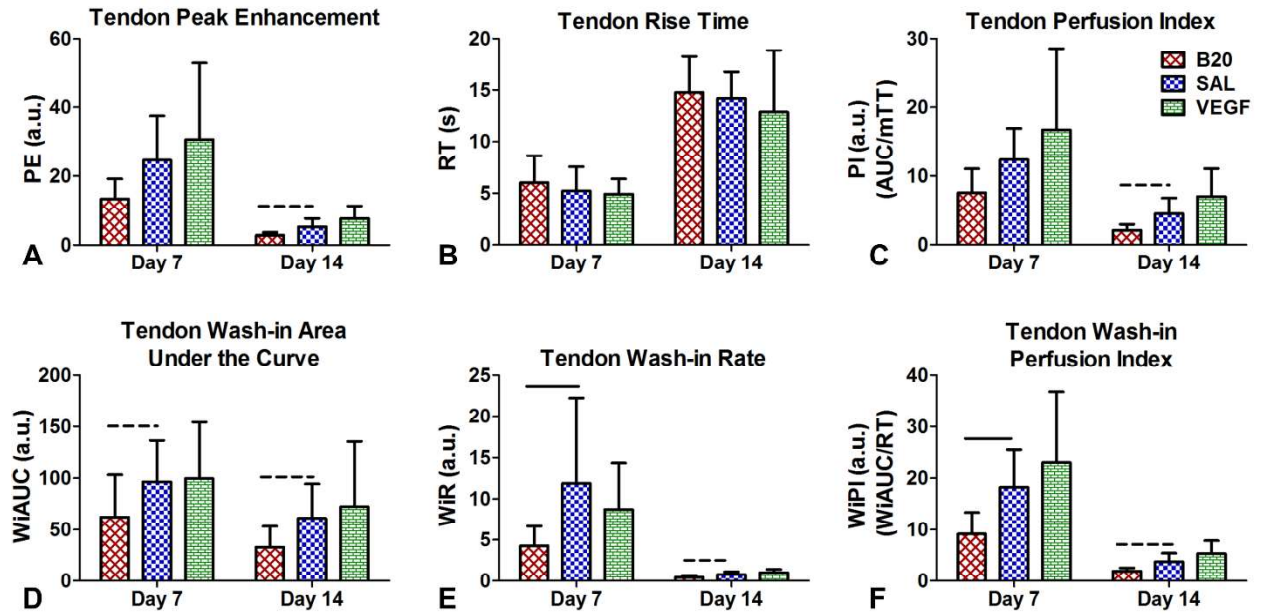


Figure S4: Quantification of contrast-enhanced ultrasound perfusion parameters within the full tendon ROI including (A) peak enhancement (PE), (B) rise time (RT), (C) perfusion index (PI), (D) wash-in area under the curve (WiAUC), (E) wash-in rate (WiR), and (F) wash-in perfusion index (WiPI).

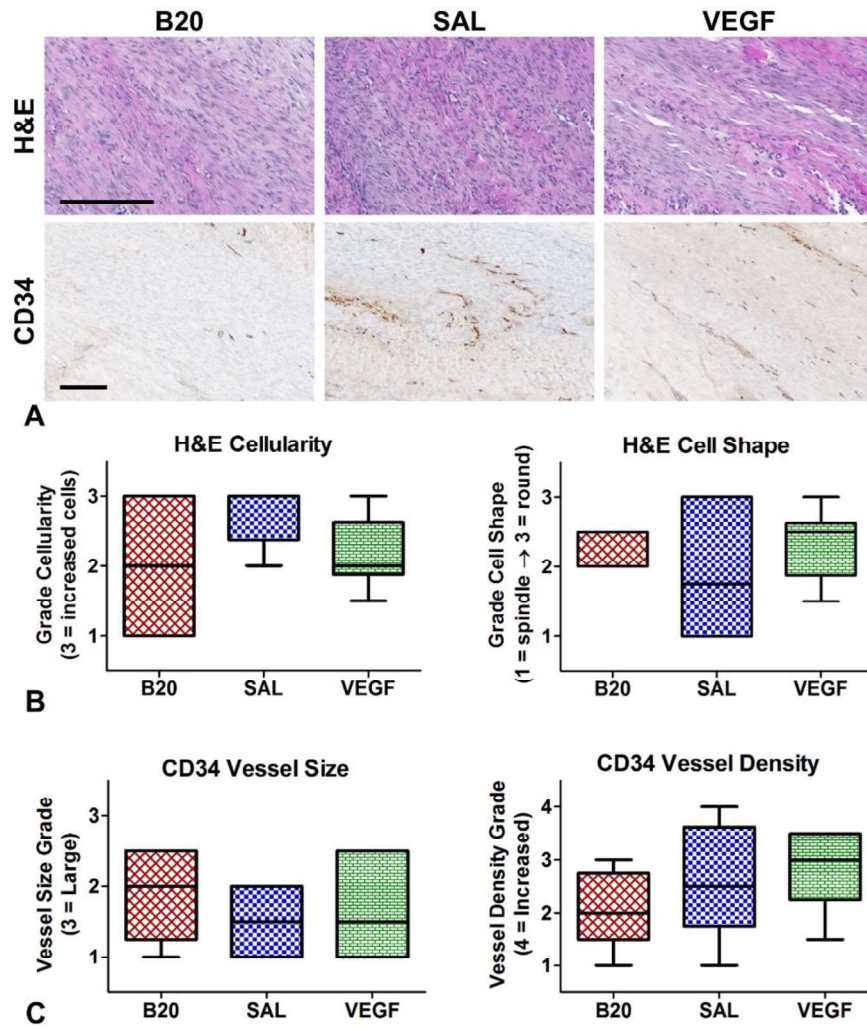


Figure S5: (A) Representative images of H&E (100x magnification) and immunohistochemical staining for CD34 (50x magnification) (scale bar 200µm). Semi-quantitative evaluation of (B) H&E cell shape and (C) cellularity, and (D) CD34 vessel density and (E) vessel size.

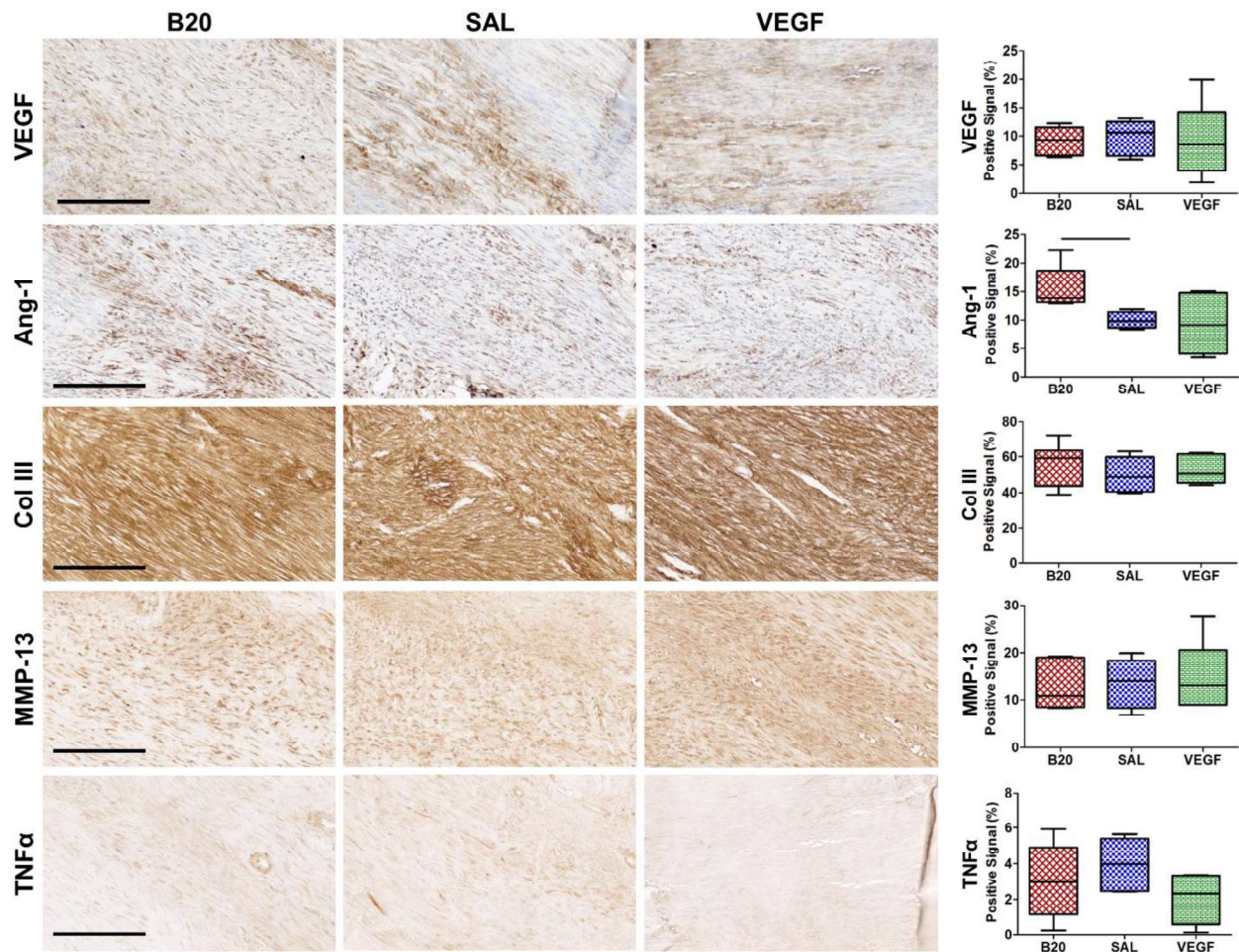


Figure S6: Representative images of immunohistochemical staining (100x magnification, scale bar 200μm), and quantification of percent positive staining for vascular endothelial growth factor (VEGF), angiopoietin-1 (Ang-1), type III collagen (Col III), matrix metalloproteinase 13 (MMP-13), and tumor necrosis factor alpha (TNFα).